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The Child Attachment Style Interview (Child-ASI) and depression: Preliminary findings.

Abstract

Background: Childhood familial trauma is a major contributor to psychological disorder. One of its key impacts is insecure attachment style, which impedes the development of close relationships. Trauma-related vulnerability is important to assess in primary school but there is a gap in age-appropriate measurement tools. This paper outlines the development of the Child Attachment Style Interview (Child-ASI) suitable for 6 to 11-year olds. This can be utilised on-site to identify damaging effects of trauma experience at an early stage.

Method: The Child-ASI was developed from an existing adolescent/adult measure and tested on a sample of children in primary school ($n=42$) together with a subsample of those in care ($n=20$). A checklist of life events and the Mood and Feeling Questionnaire (MFQ) for depression was also administered.

Results: Acceptable inter-rater reliability was found ($\kappa=0.84$ for overall attachment style). A factor analysis of subscales produced the expected five factors for classification. Rates of insecure styles (38% in school and 90% in care) were consistent with other studies and related to separation from parent and depression. Logistic regression showed insecure attachment style and negative life events provided the best model for depression.

Conclusion: Preliminary findings indicate the Child-ASI provides an effective way of assessing attachment style in children. Its use is for more intensive investigation of trauma-related interpersonal problems, administered by trained teachers. It is less

intrusive than direct trauma assessments and fits with the policy need to identify vulnerability for mental health issues in schools.

Keywords: child attachment interview, depression, school, in-care, life events

Introduction

It is becoming increasingly urgent to understand trauma and its impacts in school-age children and to provide primary prevention to decrease health risks (Marmot, 2010). Government policy has recognised the high rates of mental health problems preventing in school children and has addressed actions in their mitigation by educationalists (Department_for_Education, 2018). A major source of such risk is the child's adverse experience in the home culminating in neglect or abuse which can constitute trauma exposure. This is common, affecting 1 in 5 children, with impacts including emotional and behavioural problems which can manifest themselves at school (Radford et al., 2011). Schools have been tasked with the early identification of risk and preventative work, in liaison with clinical and social care services.

In order to identify risk early without transgressing ethical and privacy sensitivities, it can be necessary for schools to first identify 'signs' of trauma to indicate possible abuse issues at source. For this an understanding of attachment theory (Bowlby, 1979) is central in linking the impact of parental harm to the child on bonding experience with the parents and the child's development of trust in relationships (Sroufe, 2005). This in turn influences exploratory behaviour and the motivation to learn which requires a relaxation of a child's fear and vigilance (Belsky, 2001). A key element of attachment theory is that of attachment styles, those insecure developing in the face of neglect and abuse. These can be seen as adaptive strategies for flight, fight, freeze etc and whilst relatively plastic in childhood subsequently become fixes and a source of poor support

and conflict (Bifulco & Thomas, 2012). This can inhibit learning (Wong, Wiest, & Cusick, 2002).

Another policy imperative is to identify attachment problems in childhood (NICE, 2016). Insecure attachment style is also associated with a number of psychosocial risk factors and emotional disorder, now well substantiated in adults (Bifulco et al., 2006; Dozier et al 2008; Murphy & Bates, 2000) adolescents (Green & Goldwyn, 2002; Gullone et al, 2006; Scott et al, 2003). It also holds in children, despite fewer measures being available (Kerns & Brumariu, 2014) with a recognised ‘measurement gap’ in middle childhood (Jewell et al, 2019). One way of filling this was to adapt adult intensive measures to a child/adolescent population. The Child Attachment Interview (CAI) developed in this way is a successful highly specialist assessment tool, paving the way for other methods to be developed exploring different dimensions of attachment and how they link to psychopathology (Shmueli-Goetz et al, 2008). The importance of measuring attachment style accurately in childhood is to identify trauma-related vulnerability which increases the risk of psychological disorder both contemporaneously and in later life. This can inform barriers to learning in normative populations (e.g. school pupils) as well as to indicate possible family risk (Geddes, 2005). It can also aid in assessing high risk populations such as children in-care to influence care planning (Wallis & Steele, 2001; Zegers et al 2006).

There are still unanswered questions in childhood about mechanisms for such risk. For example, around specificity of attachment style/pattern and type of disorder, or details of the quality of relationships with parents and peers and attachment insecurity. Measurement is critical in providing consistency of style across studies, across age groups as well as inter-generationally (Jacobvitz et al 2002; Stein et al., 2002). Most measures identify the traditional Secure, Anxious-Ambivalent or Avoidant structure (Ainsworth et al, 1978) but with some variation: for example including Fearful style (Bartholomew & Horowitz, 1991) or differentiating Angry-dismissive and Withdrawn and including some form of Disorganised or Unresolved/ unclassifiable category (Bifulco & Thomas, 2012; Main & Hesse, 1990). Disadvantages of using self-report approaches revolve around the insight needed to report accurately, the dimensional rather than categorical classifications produced and the lack of context of ongoing attachment relationships. Measures include the Security Scale (Kernse et al 1996), the Avoidant and Preoccupied Coping Scales or Coping Strategies Questionnaire (Finnegan et al 1996) and the Inventory of Parent and Peer Attachment (IPPA) (Armsden & Greenberg, 1987). In general, these measures consider attachment in middle childhood as a dimensional characteristic of a *specific* child-attachment figure relationship rather than a generalized representation or *style* with relevant behavioural patterns across relationships.

With regard to interviews, there is only one which identifies such overall attachment styles: The Child Attachment Interview (CAI) (Shmueli-Goetz et al 2008; Target et al

2003) an adaptation of the Adult Attachment Interview (George et al 1984). This is a video-recorded interview consisting of 15 questions focusing on children's perceptions of their attachment figures' current availability and sensitive responsiveness. The interview generates attachment styles of Secure, Preoccupied, Dismissive and Unresolved. Its adult form is well established as both a research and clinical tool (Stein et al 1998). In a recent systematic review it was identified as the best childhood attachment interview available, but in this field there remain gaps in our knowledge of measure psychometric properties (Jewell et al 2019). However, it should be noted that the CAI like its adult counterpart has a focus is on internal representations following a psychodynamic tradition, rather than assessment of the quality of support and personal interactions as the basis for determining relating ability for different attachment styles.

A measure rooted in a more social psychological approach, with a very transparent set of questions and ratings provides the opportunity to shed light on social risks for psychopathology at this early stage of development. The Attachment Style Interview (ASI) (Bifulco et al, 2002) for adults and adolescents is an interview measure utilised widely in services for children and parents including adoption/fostering, child protection and clinical services in order to assess attachment characteristics of parents (Bifulco et al., 2002; Bifulco & Thomas, 2012). This measure assesses support and quality of relationship from close others (either partner or parent and very close support figures), as well as attitudes towards closeness, autonomy, fear and anger. It generates six styles: Secure, Enmeshed, Fearful, Angry-dismissive and Withdrawn, as well as Disorganised

(mixed style). In a number of analyses the Anxious styles (Enmeshed and Fearful) are combined, as are the Avoidant styles (Angry-dismissive and Withdrawn) (Bifulco et al., 2004). The measure has published reliability and validity and has been used in a number of studies with community-based adults (Bifulco & Thomas, 2012) and adolescents (Oskis et al 2014) as well as applied in practice to parents (Bifulco et al, 2008) and adolescents in residential care (Jacobs et al , 2012).

The study reported here tests the use of a new child version of the ASI in a school sample, enriched with a group of children from foster and residential care. We use the term ‘style’ to follow the adult and adolescent version, however whether such patterns will have the full attributes of style in terms of continuity is an issue to be further researched. Having a single measurement approach which can be used for children, adolescents and adults will help determine this, and will provide a step towards current NICE (2016) best practice which states that all staff who may come into contact with children and young people with attachment difficulties receive appropriate training on attachment difficulties.

The aims of the current study were as follows:

(1) to develop a semi-structured child attachment interview, parallel to the adult/adolescent ASI which produces the same attachment styles with rates similar to those found in other measures,

(2) to test its inter-rater reliability and concurrent and predictive validity in relation to risk factors and depression in primary school-aged children,

(3) to test whether insecure attachment style adds to other risk factors (life events and separation from parents) in a model of self-reported depression.

Method

Sample

Most of the children selected comprised a normative primary school population. A subsample comprised children in-care (foster care or residential homes) and was utilised to enrich the sample to further test feasibility, and to increase the potential for more vulnerable profiles and more extreme insecure ratings.

Ethical Permission was granted by the university ethics board. With the head teachers' written permission, letters were sent out to parents of school children explaining the study with an opt-out option. Permissions were sought from the head of the residential home services, with separate health authority ethical permission from the Isle of Man. In the care system, foster carers all signed their consent to their child being interviewed individually. At the start of the interview, each child was informed of the purpose of the study and its confidentiality (with the usual provisos of safety to self or other) and children asked to sign their assent.

Schools: Two state primary schools in London and Surrey were approached for permission to use the interview measure on children in class during school hours. After permission from school head, letters were sent out to parents informing them of the study and requiring opt-out if they did not want their child involved. The school children were introduced to the project as a whole class, and then invited to be interviewed individually in an adjoining room. Two classes were utilised comprising 45 children. The interview took approximately one lesson length (up to 40 minutes), to fit in with the school timetabling. The children were asked to sign their ‘assent’ at the start of the interview, and all were cooperative and engaged well. One child only was excluded because her parent did not agree to opt-out and one child was included despite refusing to be audio-recorded (notes were taken at interview).

In-care children: The Child-ASI interview was also completed by a subset of children in the care of a voluntary organisation and located in the Midlands and the Isle of Man. Most were from foster care. Following informed consent from foster-carers, a Saturday meeting was arranged for 12 children in foster care in the Midlands who were provided with lunch, had a group description of the study and then were interviewed one-to-one in adjoining rooms, having first signed their assent. Subsequently feedback forms were provided for the foster carers involved. An additional four children were given the ASI as part of their foster care assessments in the Isle of Man services. Eight children in residential care on the Isle of Man were approached individually for interview as part of their ongoing assessment. Four initially agreed but then either refused to complete, or

their answers were too brief to make scoring feasible. Therefore, in total there were 20 complete interviews for children in care (16 foster and four residential).

Inter-rater reliability test

For 20 interviews randomly selected two raters scored the interviews blind in order to determine agreement of rating codes utilising Kappa correlation.

Measures

Mood and Feeling Questionnaire (Adrian Angold & Costello, 1995; A. Angold et al., 1995)¹: The MFQ used to measure depression symptoms has acceptable reliability and validity and is accepted by NICE as a clinical tool (Simmons et al 2015). The child self-completed the section but with the interviewer reading out the items. It comprises a 13-item Likert scale with the range of scores (0-39) having a published cut-off of 11 or above to indicate emotional disorder. For this analysis on a mainly normative sample a slightly lower cut-off of 10 or more was chosen to indicate potential subclinical or case disorder.

The Child Attachment Style Interview (Child-ASI)

The interview was based on the adult/adolescent version, but designed to be more child-friendly by being shorter (less than 40 minutes to administer in school settings), with

¹<http://depts.washington.edu/hcsats/PDF/TF-%20CBT/pages/1%20Assessment/Standardized%20Measures/Moods%20and%20Feelings%20Questionnaire%202.08.pdf>

more structured questions, and with child self-completed sections to parallel the interview-based ratings. The schedule is set out with colourful cartoon illustrations in order to be child-friendly and is visible to the child throughout, being set out on a table between the child and interviewer throughout. This is because children, particularly those vulnerable, often feel intimidated by intense eye contact in interview situations (Calam et al, 2000). The relationship focus was on parents/ substitute parents in addition to peer friendships/siblings and best friends who are confidants. The interviews are audio recorded (with the child's permission) for the subsequent coding of the interviewer-based scales. Examples of ratings from a pilot use of the measure version were used to guide raters for the subsequent ratings for the total sample. The rating takes around twice the time of the interview length. However, given that much is written down and scored during the interview session, this is less onerous than in the adolescent or adult version.

The interview was in four sections:

Demographics This established age, gender, ethnicity and birth location as well as household members, parent figures looking after the child, number and age of siblings, parent occupation and losses of parents in childhood (death or separation of 12 months or more). A binary scale of loss of mother or loss of father at any point was created.

Life Events: This comprised an 18 item self-report scale of common events taken from the Psychosocial Assessment of Childhood Experience (PACE) interview (Bifulco et al 2000; Sandberg et al, 1993). The items involved life events to the self or close family

over the prior 6 months, involving health (e.g. illness, accident); loss of close others and pets; problems at school (e.g. with teachers, schoolwork, bullying); life changes (e.g. of house; school), interaction problems at home (with parents or siblings) and family events (e.g. parent loss of job). These were rated as present or absent, and where present, children were asked if the event was upsetting (Yes/No) and whether they confided in anyone about the event (Yes/No). The total number of events were utilised in the analysis.

Support/ relationships with parents and friends: The interview covered the closeness, positive interaction and negative interaction with the birth parents, (and substitute parents where applicable) and were rated on 4-point scales (marked, moderate, some, little/none) for both subjective report and interviewer-judgement, the latter based on reports of interaction. (A slightly modified version was used for the in-care sample to reflect foster care and/or residential care arrangements. Thus contact with birth parents was routinely questioned about as well as substitute carers). It also questioned about number of friends and confidants. In the analysis, the number of close others, close friends and confidants were calculated. ‘Ability to make and maintain relationships’ was an interviewer-assessment of successful relating based on closeness to parents, family and friends.

Attachment attitudes and overall style: Seven attachment dimensions, mirroring those in the adult/adolescent interview, comprised Mistrust, Constraints on Closeness, Fear of Rejection, Self-reliance, Desire for Company, Fear of Separation and Anger. These scales were all rated by the interviewer on four point scales (rated 1:marked,

2:moderate, 3:some, 4:little-none), based on predetermined thresholds and taken to be objective assessments. Another type of scale was also included, in part to engage the child more in the interview. These were subjective Likert scales ($n=10$) which the interviewer read out and the child completed on the interview schedule in parallel with the interview questions (e.g. I like to get close; I am afraid people will upset me). These were rated 'not at all', 'some of the time', 'most of the time', 'all the time'). These Likert scales were summed (with appropriate reversing of scores) to form a total self-report insecure attachment score.

From the scoring of relationship quality, ability to make and maintain relationships and attitudes around attachment five attachment styles (Enmeshed, Fearful, Angry-dismissive, Withdrawn and Secure) and a Disorganised style were rated consistent with the adult/adolescent ASI measure. This was based on algorithms of key scales reflecting different attachment patterns (Bifulco & Thomas, 2012). The degree of insecurity was rated as mild, marked or moderate on a final 13 point scale.

Analysis

Analysis was conducted with SPSS v21. Inter-rater reliability was determined by Kappa (Kw) correlations on the overall attachment scale and subscales. Internal reliability was assessed using alpha scores, correlations between scales were examined using Pearson's r , and factor analysis with varimax rotation to examine the association of subscales to underlying factors representing attachment styles. The two groups (school and in-care)

were identified and only the school sample used for prevalence rates and factor analysis. The groups were however combined with dichotomised risk scales examined in relation to attachment style outcome using chi-square statistic. Significance levels at $p=.05$ or below were utilised. Binary logistic regression was used to model risk factors including insecure attachment style for emotional disorder (MFQ) outcome with group (school versus in-care) used as a control variable.

Results

Demographics

The children studied had a mean age of 9.84 (SD .79, range: 8-11). There were 58% boys and 42% girls. The characteristics of the two groups are examined in turn.

Group 1 - School children (n=42), There were more boys than girls (60% vs 40%) and the sample comprised White (52%) with 10% Black (African or Caribbean origin), 5% Pakistani, 2% Middle Eastern and 32% regarding themselves as 'Other' (mixed heritage). Of these 14% were born outside the UK, with most (57%) born in London or the South East. The family structure showed that 60% of the school children were living with both parents, 21% were living with a single parent, nearly all mothers, 12% with a parent and stepparent, and 7% in other settings. Only 19% had one adult in the household, with 71% having two adults and 10% having more than two adults at home. Father's occupation showed over a third (35%) of the sample were middle-class

(professional or managerial) and 32% working class (manual) with only 3% unemployed. (However, there were a number of missing values due to children being unclear about their parent's jobs).

Group 2 - in-care group (n=20): These had an average age of 9.22 (SD1.06, range 8-11) and 55% were boys and 45% girls. Of this subsample, most (81%) were White with 19% Black, Asian or minority ethnic heritage. Most had father's occupation as unknown (63%), with the remainder manual (13%) occupations or not working (25%). All these children were separated from both parents with residential care children having no parent figures in the home and foster children all having two parent figures.

There is reason to believe that the in-school children were reasonably representative given whole class coverage and diverse ethnic backgrounds and non-traditional family settings. However, the in-care group are likely to be less representative because of a high refusal rate and a low level of diversity represented. Therefore, more caution is required in interpreting results for this group.

Reliability and concurrent validity of the Child-ASI

Inter-rater reliability was assessed on 20 interviews, blind rated by two researchers. Scales reflecting relationship with mother and father had average Kappa correlations of 0.71 for mother and 0.90 for fathers. An average 0.76 correlation was found for the eight attachment subscales with a Kappa of 0.84 for the full attachment style categorisation. Relationships between attachment subscales (both interviewer-assessed

and self-report) and their mapping onto attachment classification themes, was determined using factor analysis and varimax rotation. The five-factor solution with eigen values 1 or more, corresponded to the five insecure attachment styles. The subscales for each factor were consistent with overall attachment style definitions (see table 1).

Table 1 about here

In terms of concurrent validity, significant correlations were found between qualities of close relationships and overall attachment style classification for the total number of confidants ($r=-0.45, p<0.001$), number of parents who were confidants ($r=-.31, p<0.02$) and number of close friends ($r=-.31, p<0.02$). Quality of relationship with mother was also significantly associated with attachment style: closeness to birth mother ($r=0.26, p<0.05$), birth mother's negative interaction ($r=-.40, p<0.003$]. However, this did not hold for father: 'closeness to birth father' ($r=0.13, ns$) and 'birth father's negative interaction' ($r=-0.06, ns$).

Attachment style prevalence

Secure style was the most prevalent style in the school sample (group 1) at 62% (26), Anxious styles were rated for 12% (n=5), (Enmeshed 7% and Fearful 5%) with Avoidant at 24% (n=10) (Angry-dismissive style 19% and Withdrawn 5%). Disorganised style was the least common at 2% (n=1). Comparison with studies using

alternative interview measures show similar rates of 60% Secure, 12% Anxious, 30% Avoidant and 4% Disorganised/unresolved (Shmueli-Goetz et al., 2008).

The in-care sample, whilst involving smaller numbers, showed significantly higher insecure rates: Secure style was only 10% (n=2) Anxious style 45% (n=9); Avoidant style 30% (n=6), and Disorganised style 15% (n=3). This was significantly different from the school group ($\chi^2=18.19$, 3df, $p<.0001$). Whilst there are no comparable rates published for this age group in care, these rates are similar for overall insecurity, but with rather lower disorganised rates than found in residential care in UK adolescents (Wallis & Steele, 2001) at 62% Disorganised, 23% Avoidant, 8% Anxious, and 8% Secure (Bifulco et al 2017). This is likely to be due to the fact the majority were in foster care and therefore in family settings.

Self-report vs interviewer ratings

The Child-ASI reflected both interviewer-assessed scales (rated from the recordings after the interview) and self-report scales (which the child completed during the session when read out by the interviewer). When these were examined in the school sample the summed self-report scales were significantly correlated with secure vs insecure ratings on the interviewer-based scale ($r=0.45$, $p<0.000$) and with the overall attachment scale ($r=0.40$, $p<0.003$). They also correlated with the life event score ($r=0.48$, $p<0.001$) and MFQ symptoms ($r=0.42$, $p<0.007$). The total score did not however relate to loss of mother or father ($r=0.27$ and $r=0.21$, ns, respectively).

Attachment style, risk factors and depression

To determine predictive validity, the overall attachment style scale was examined in relation to various risk factors and depression. To increase numbers in each attachment category the simplified three styles (Anxious, Avoidant and Secure) were examined. (There were only 2 children with disorganised style, comprising two insecure styles these were subsumed with the predominant style in both cases Anxious style). Highest rates of depression were shown for Anxious styles (40% or 6/15) but with Avoidant also showing a raised rate (27% or 4/15) compared with Secure (7% or 2/28) ($p < .03$, 4 missing values). Table 2 shows risk factors in relation to the secure vs insecure classification. An odds ratio of 6.50 was shown for MFQ depression and as high as 18.57 for separation from mother and 12.46 for separation from father. However, there was no significant relationship of secure versus insecure attachment style to life events ($OR = 2.18$, $p = .184$).

Table 2 about here

Binary logistic regression examined insecure attachment style, loss of mother, and life event (7+) score in relation to MFQ depression as an outcome, with group as a control factor (see table 3). Insecure attachment style and life event score provided the best model for the combined sample (goodness of fit 83.9%).

Table 3 about here

Discussion

In order to aid identification of trauma-related vulnerability in school populations, this report describes the development of the Child-ASI interview measure of attachment style for children aged 8-11 years old, tested in relation to self-reported depression. The interview used has similar elements to an existing standardised measure for adolescents and adults (ASI). It was shown to have good reliability and convergent validity in relation to other risk factors and the construct of insecure attachment style showed predictive validity in relating to depression. Innovative aspects of the measure include the inclusion of both interviewer-assessed scales and subjective self-report scales, with the child involved in rating during the interview themselves. Whilst the self-report total score was highly associated with the interviewer overall secure vs insecure score, this did not hold in the in-care sample. It is likely that this group were less proficient at self-monitoring their states of mind and relationships due to lack of mirroring and labelling from caring parents, a keystone of secure attachment (Fonagy & Target, 2006). This also highlights the danger of using only self-report scales with high-risk children who may have little insight and bias the study findings. It is noted that children often seek to provide the ‘correct’ answer in such settings (Simmons et al 2015). For this reason, the interview needs to be administered with care and children encouraged to give a range of responses, both written and descriptive.

The distribution of attachment styles in the school children was similar to rates found in a London community sample in 7-12 year old London children using an alternative interview the CAI when the abbreviated classifications common to both were used (Shmueli-Goetz et al., 2008). It is noteworthy that when rates of insecure style for children in care whilst significantly more insecure than the normative group, were somewhat lower than rates found in UK residential care studies (Wallis & Steele, 2001) although the respective higher rates in both Avoidant and Disorganised shows a similar pattern (Bifulco A. et al., 2017)

The Child-ASI and the data obtained provide a promising avenue for further investigation in school contexts. The ASI is successfully used for training practitioners (psychologists, social workers and care workers) for administration to parents or adolescents in care settings. It can be further combined with self-report measures of attachment styles for more widespread school screening, for example alongside symptom scales (see Spence et al, this volume). This is already done in residential and foster care settings and is viewed as a highly transparent assessment approach (Bifulco et al., 2008). Thus, the more intensive Child-ASI interview can be used both for child engagement and for greater specificity and detail of attachment problems arising in relationships for children targeted as having problems in relating. Given that other professionals have been successfully trained in administering the adolescent version of the ASI (both psychologists, social workers and care workers) we believe it is well

within the capacity of teachers to be able to reliably. Additional attention would need to be given to feedback sessions and further developmental work may be required for this. It is also noted that the in-care children seemed less reluctant to engage, potentially given higher mistrust levels. This should also be given consideration when devising school procedures for undertaking the Child ASI interview assessments.

In research terms, having a child attachment interview which can be easily used in normative populations, can allow for further exploring of the child's relationship to mother and father, in relation to overall attachment style and if used prospectively, to investigate the likely developmental shift from distinct attachment patterns with individual caregivers to a more enduring organised strategy or style. This may be a strength of the measure, as previous studies using representational measures of attachment in children have been unable to verify the extent to which narrative performance is influenced by attachment to father, or other important caregivers (Bureau & Moss, 2010). The relationship with the mother was identified here as of key importance, but there were also important associations with father separation and relationship as well as with confidants. Anxious styles were particularly highlighted in relation to both risk and depression, which confirms other findings (Kerns, et al 2007).

There are limitations of this preliminary study. Firstly, the in-care sample size was small, even for a validation study, with a higher number of refusals. Secondly the Child-ASI was not directly compared with another child attachment measure. This is because

of the lack of comparable self-report measures and the unfeasibility of using two intensive interviews. Further research is needed in such comparison. Thirdly a clinical interview was not used to verify clinical disorder. Finally, parental reports were not included for a different vantage point in corroborating experience for any of the measures.

However, these preliminary results indicate that the measure itself is one that can be used for future research in normative and high risk samples. It has the potential for mainstream use in a wide range of professions dedicated to the care of children and young people, where it is necessary to identify insecure attachment style as a vulnerability for disorder and problem behaviour. This could prove critical for the success of the NICE (2016) guidelines focussing on attachment in children looked after by social services, many of whom require Child and Adolescent Mental Health services. These Children's Attachment guidelines specifically suggest that health and social care provider organisations should train key workers, social care workers, personal advisers and post-adoption support social workers in the care system, as well as workers involved with children and young people on the edge of care, in recognising and assessing attachment difficulties.

Furthermore, these guidelines suggest that as well as provision of training for professionals, a child or young person who may have attachment difficulties should be offered a comprehensive assessment before any intervention. The Child ASI presents an

opportunity for mainstreaming a social-psychologically geared attachment style measurement for teachers, child mental health and social care professionals. The Child-ASI can therefore aid with identifying the likely cause of emotional and behaviour problems in children with trauma exposure in the school system as well as monitoring their progress in fostering and other interventions.

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References

- Ainsworth, M. D. S., Blehar, M., Athers, E., & Wall, S. (1978). *Patterns of attachment: A psychological study of the Strange Situation*. Hillsdale, NJ: Lawrence, Erlbaum.
- Angold, A., & Costello, E. J. (1995). A test-retest reliability study of child-reported psychiatric symptoms and diagnoses using the Child and Adolescent Psychiatric Assessment (CAPA-C). *Psychological Medicine*. 1995 Jul; Vol 25(4): 755-762.
- Angold, A., Costello, E. J., Messer, S. C., Pickles, A., Winder, F., & Silver, D. (1995). The development of a short questionnaire for use in epidemiological studies of depression in children and adolescents. *International Journal of Methods in Psychiatric Research*, 5, 237-249.
- Armsden, G. C., & Greenberg, M. T. (1987). The Inventory of Parent and Peer Attachment: Individual differences and their relationship to psychological well-being in adolescence. *Journal of Youth and Adolescence*, 16(5), 427-454.
- Bartholomew, K., & Horowitz, L. M. (1991). Attachment styles among young adults: A test of a four-category model. *Journal of personality and social psychology*, 61(2), 226-244.
- Belsky, J. (2001). Emanuel Miller lecture: developmental risks (still) associated with early child care. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 42(7), 845-859.
- Bifulco, A., Figueirido, B., Guedeney, N., Gorman, L., Hayes, S., Muzik, M., . . . Henshaw, C. (2004). Maternal attachment style and depression associated with childbirth:

- Preliminary results from a European/US cross-cultural study. *British Journal of Psychiatry (Special supplement)*, 184(46), 31-37. doi:10.1192/bjp.184.46.s31
- Bifulco, A., Harrington, V., Lapkin, J., & Frank, E. (2000). *Psychosocial Assessment of Childhood Experience: The Life Events and Difficulties Schedule (PACE/LEDS) manual*. Retrieved from Pittsburgh USA:
- Bifulco, A., Jacobs, C., Bunn, A., Thomas, G., & Irving, K. (2008). The Attachment Style Interview (ASI): A support-based adult assessment tool for adoption and fostering practice. *Adoption & Fostering*, 32, 33. doi:10.1177/030857590803200306
- Bifulco, A., Kwon, J. H., Moran, P. M., Jacobs, C., Bunn, A., & Beer, N. (2006). Adult attachment style as mediator between childhood neglect/abuse and adult depression and anxiety. *Social Psychiatry & Psychiatric Epidemiology*, 41(10), 796-805. doi:10.1007/s00127-006-0101-z
- Bifulco, A., Moran, P. M., Ball, C., & Bernazzani, O. (2002). Adult attachment style. I: Its relationship to clinical depression. *Social Psychiatry & Psychiatric Epidemiology*, 37, 50-59. doi:10.1007/s127-002-8215-0
- Bifulco, A., & Thomas, G. (2012). *Understanding adult attachment in family relationships: Research, assessment and intervention*. London: Routledge.
- Bifulco A., Jacobs, C., Ilan-Clarke, Y., Spence R., & Oskis, A. (2017). Adolescent Attachment Style in Residential Care: The Attachment Style Interview and Vulnerable Attachment Style Questionnaire. *British Journal of Social Work* 47, 1870–1883. doi:10.1093/bjsw/bcw117
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. . London: Routledge.

- Bureau, J. F., & Moss, E. (2010). Behavioural precursors of attachment representations in middle childhood and links with child social adaptation. . *British Journal of Developmental Psychology*, 28(3), 657-677.
- Calam, R., Cox, A., Glasgow, D., Jimmieson, P., & Larson, S. G. (2000). Assessment and therapy with Children: Can computers help? *Clinical Child Psychology and Psychiatry*, 5(3), 329 - 343.
- Department_for_Education. (2018). *Mental health and behaviour in schools*. Retrieved from London: <https://www.gov.uk/government/publications/mental-health-and-behaviour-in-schools--2>
- Dozier, C., Stovall-McClough, K. C., & Albus, K. (2008). Attachment and psychopathology in adulthood. In J. Cassidy & P. R. Shaver (Eds.), *Handbook of Attachment. Theory, Research, Clinical Applications*. (pp. 718-745). New York
London: Guilford Press.
- Finnegan, R. A., Hodges, E. V. E., & Perry, D. G. (1996). Preoccupied and Avoidant Coping during Middle Childhood. *Child development*, 67, 1318-1328.
- Fonagy, P., & Target, M. (2006). The Mentalization-Focused Approach to Self Pathology. *Journal of Personality Disorders*, 20(6), 544-576. doi:10.1521/pedi.2006.20.6.544
- Geddes, H. (2005). *Attachment in the Classroom: The links between children's early experience, emotional well-being and performance in school: A Practical Guide for Schools Paperback*: Worth Publishing.
- George, C., Kaplan, N., & Main, M. (1984). *Attachment Interview for Adults*, (). University of California, Berkeley.

- Green, J., & Goldwyn, R. (2002). Attachment disorganisation and psychopathology: new findings in attachment research and their potential implications for developmental psychopathology in childhood. *Journal of Child Psychology and Psychiatry*, 43(7), 835-846.
- Gullone, E., Ollendick, T. H., & King, N. J. (2006). The Role of Attachment Representation in the Relationship Between Depressive Symptomatology and Social Withdrawal in Middle Childhood. *Journal of Child and Family Studies*, 15(3), 271-285.
- Jacobs, C., Ilan-Clarke, Y., & Bifulco, A. (2012). Caring about attachment in young people in residential care: The use of the Attachment Style Interview. Report of a voluntary sector and university partnership. . *Community Care Inform online resource*, (5th March.). Retrieved from <http://www.ccinform.co.uk/articles/2012/03/05/6604/caring+about+attachment+in+young+people+in+residential+care+the+use+of+the+attachment+style.html> website:
- Jacobvitz, D., Curran, M., & Moller, N. (2002). Measurement of adult attachment: the place of self-report and interview methodologies. *Attachment and Human Development*, 4(2), 207-215.
- Jewell, T., Gardner, T., Susi, K., Watchorn, K., Coopey, E., Simic, M., . . . Eisler, I. (2019). Attachment measures in middle childhood and adolescence: A systematic review of measurement properties. *Clinical Psychology Review*, 68, 71-82.
doi:<https://doi.org/10.1016/j.cpr.2018.12.004>

- Kerns, K., Klepac, L., & Cole, A. (1996). Peer Relationships and Preadolescents' Perceptions of Security in the Child-Mother Relationship. *Developmental Psychology*, 32(3), 457-466.
- Kerns, K. A., Abraham, M. M., Schlegelmilch, A., & Morgan, T. A. (2007). Mother-child attachment in later middle childhood: Assessment approaches and associations with mood and emotion regulation. *Attachment & Human Development*, 9(1), 33-53.
- Kerns, K. A., & Brumariu, L. E. (2014). Is insecure parent-child attachment a risk factor for the development of anxiety in childhood or adolescence?. *Child development perspectives*, 8(1), 12-17.
- Main, M., & Hesse, E. (1990). Parents' unresolved traumatic experiences are related to infant disorganized attachment status: Is frightened and/or frightening parental behavior the linking mechanism? In M. Greenberg, Cicchetti, D., and Cummings, M (Ed.), *Attachment In The Preschool Years: Theory, Research, and Intervention*. (pp. 161-182). Chicago: University of Chicago Press.
- Marmot, M. (2010). *Marmot review, Fair Society, Healthy Lives* London: University College London.
- Murphy, B., & Bates, G. W. (2000). Adult attachment style and vulnerability to depression. *Personality and Individual Differences*, 22(6), 835-844. doi:10.1016/S0191-8869(96)00277-2
- NICE. (2016). *Children's Attachment: Quality Standard*. Retrieved from [nice.org.uk/guidance/qs133](https://www.nice.org.uk/guidance/qs133)

- Oskis, A., Clow, A., Loveday, C., Hucklebridge, F., & Sbarra, A. (2014). Biological Stress Regulation in Female Adolescents: A Key Role for Confiding *J Youth Adolescence*. doi:DOI 10.1007/s10964-014-0182-z
- Radford, L., Corral, S., Bradley, C., Fisher, H. L., Bassett, C., Howat, N., & Collishaw, S. (2011). *Child cruelty in the UK 2011*. Retrieved from London:
- Sandberg, S., Rutter, M., Giles, S., Owen, A., & et al. (1993). Assessment of psychosocial experiences in childhood: Methodological issues and some illustrative findings. *Journal of Child Psychology and Psychiatry and Allied Disciplines*, 34(6), 879-897.
- Scott Brown, L., & Wright, J. (2003). The relationship between attachment strategies and psychopathology in adolescence. *Psychology and Psychotherapy: Theory, Research and Practice*, 76(351-367).
- Shmueli-Goetz, Y., Target, M., Fonagy, P., & Datta, A. (2008). The Child Attachment Interview: A Psychometric Study of Reliability and Discriminant Validity. *Developmental Psychology*, 44(4), 939-956.
- Simmons, M., Wilkinson, P., & Dubicka, B. (2015). Measurement issues: Depression measures in children and adolescents. *Child & Adolescent Mental Health*, 20(4), 230-241.
- Sroufe, L. A. (2005). Attachment and development: a prospective, longitudinal study from birth to adulthood. *Attachment & Human Development*, 7(4), 349-367.
- Stein, H., Jacobs, N. J., Ferguson, K. S., Allen, J. G., & Fonagy, P. (1998). What do adult attachment scales measure? *Bulletin of the Menninger Clinic* ., 62(1), 33-82.

Stein, H., Koontz, A. D., Fonagy, P., Allen, J. G., Fultz, J., Brethour, J. R., . . . Evans, R. B. (2002).

Adult attachment: What are the underlying dimensions? *Psychology and Psychotherapy: Theory, Research and Practice*, 75(), 77-91.

Target, M., Fonagy, P., & Shmueli-Goetz, Y. (2003). Attachment representations in school-age children: the development of the child attachment interview (CAI). *Journal of Child Psychotherapy*, 29(2), 171-186.

Wallis, P., & Steele, H. (2001). Attachment representations in adolescence: Further evidence from psychiatric residential settings. . *Attachment & Human Development*, 3, 259-268.

Wong, E. H., Wiest, D. J., & Cusick, L. B. (2002). Perceptions of autonomy support, parent attachment, competence and self-worth as predictors of motivational orientation and academic achievement: An examination of sixth-and ninth-grade regular education students. *Adolescence*, 37(146), 255-267.

Zegers, M. A. M., Scheuengel, C., Van Ijzendoorn, M. H., & Janssens, J. M. A. M. (2006). Attachment representations of institutionalized adolescents and their professional caregivers: predicting the development of therapeutic relationships. *American Journal of Orthopsychiatry*, 76(3), 325-334.

Table 1: Factor analysis of attachment subscales:(Rotated component maitrix,
principal component analysis; set to 5 factors; Group 1 school sample only.)

Coefficients of .25 or over shown. <i>SR=child self-report scales</i>	Component				
	1 Fearful	2 Angry-D	3 Enmesh	4 Secure	5 Withdr
Number of friends confided in					.92
Number of parents with closeness	.27		.79		
Number of parents confided in			.86		
Ability to make and maintain	-.32	-.39	-.66		
Constraints on Closeness	.55	.42	.40	-.34	.27
<i>SR - I like to get close</i>				.90	
<i>SR -I find it hard to ask for help</i>	.76	.21	.15		
Mistrust		.70			.24
<i>SR - I think other people are kind</i>		-.77		.21	
<i>SR - I think other people are bad</i>	.41	.53	.25		
Fear of Rejection	.74	.27			
<i>SR – I’m scared people will upset me</i>	.82				
Self-Reliance			.67		
<i>SR - I cope on my own</i>	-.26	.62	-.35		
Desire for Company		-.76			
<i>SR - I like to be with other people</i>	.34	-.33		.67	
Fear of Separation	.86				
<i>SR - I worry when people are away</i>	.63	-.27	.38		
<i>SR - I get scared when I’m alone</i>	.79				
Anger	.32	.57	.		
<i>SR - I get angry with people</i>	.41	.60	.25	-.31	
<i>SR - I am good at relationships</i>				.79	.34

Eigen value	6.71	3.70	2.19	1.63	1.34
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Table 2: Child-ASI Insecure Attachment styles and risk factors

(4 missing values, n=58)

	Emotional disorder MFQ 10+	Separation from mother	Separation from father	Life events 7+
Insecure (n=31)	32 (10)	58 (18)	74 (23)	45 (14)
Secure (n=27)	7 (2)	4 (1)	26 (7)	30 (8)
Odds Ratio	6.57	36.00	8.21	2.21
CI	(1.27-33.05)	(4.31-300)	(2.52- 26.68)	(.73-6.66)
(χ^2), df, $p <$	(6.05), 1, p<.014	(19.63),1 p<.0001	(13.46),1 p<.0001	(2.01), 1, p=.18

Table 3: Binary logistic regression of attachment style and other risk factors for depression (MFQ 10+) outcome.

Variable	OR	Wald	df	<i>p</i>
Life events (7+)	7.97	5.42	1	.02
Insecure attachment style	11.80	6.14	1	.01
Loss of mother	0.15	1.41	1	.23
Loss of father	3.24	1.32	1	.25
Group 1 (school vs 2 in-care)	2.20	0.31	1	.57

Life events and insecure attachment style is the best predictor of MFQ depression.

Goodness of fit 83.9%

(4 missing values, n=58)